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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,540	05/04/2006	Leon Axel	35836/US/2-475396-00176	9473
30873 7590 12/11/2007 DORSEY & WHITNEY LLP INTELLECTUAL PROPERTY DEPARTMENT 250 PARK AVENUE NEW YORK, NY 10177			EXAMINER GLENN, KIMBERLY E	
			ART UNIT 2817	PAPER NUMBER
			MAIL DATE 12/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/578,540	Applicant(s) AXEL, LEON	
	Examiner Kimberly E. Glenn	Art Unit 2817	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-6, 10-12, 16-18, 20, 21 and 23-53 is/are pending in the application.
- 4a) Of the above claim(s) 36 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 6, 11, 12, 17, 18, 21, 38-42 and 44-52 is/are allowed.
- 6) ☒ Claim(s) 4, 10, 16, 20, 23, 25, 35, 37, 43 and 53 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) 28, 29 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The finality of the office action dated 8/23/07 has been withdrawn.

#### ***Claim Objections***

Claims 25-27, 48 and 49 are objected to because of the following informalities:

Claims 25-27 are dependent upon a cancelled claim 22 and claims 48 and 49 are dependent upon cancelled claim 2. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-27, 30, 35, 37, 43 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 25-27 each recites the limitation "the at least one coil structure" in the first line of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites "a segment" in line 7 and "an arc" in line 8. How does this segment and arc related to the segment and the plurality arcs recited in lines 5 and 6 respectively of the same claim?

Claim 35 recites the limitation "the at least first one of arcs and the at least second one of the arcs ". There is insufficient antecedent basis for this limitation in the claim.

Claim 37 recites "current" in lines 2 and 4. How does this current related to the first and second current recited in claim 36?

Claim 43 recites "current" in lines 2 and 3. How does this current related to the first and second current recited in claim 6?

Claim 53 recites the limitation "the fourth conductive members" in line 7. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

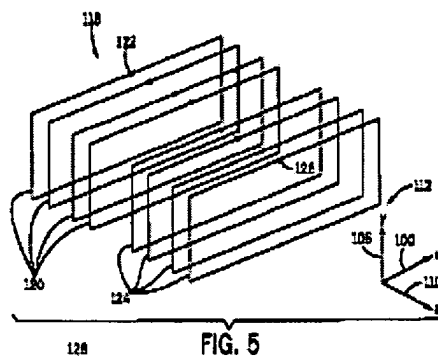
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 10, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Boskamp et al US Patent 6,563,315.

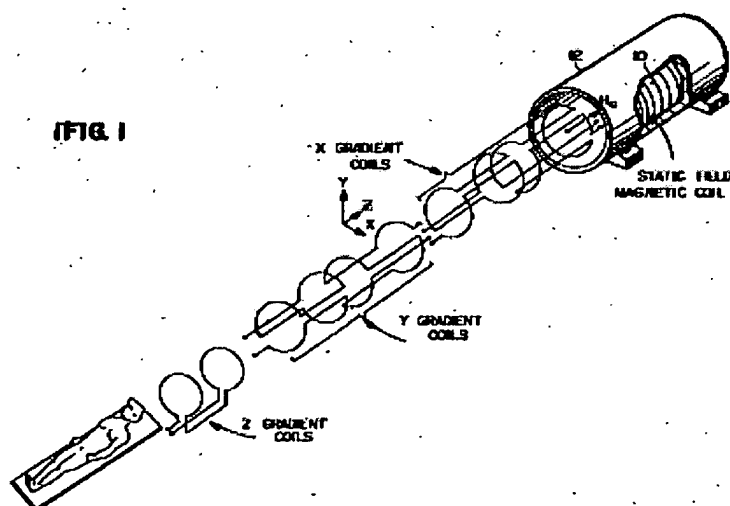
Boskamp et al disclose in figure 5, a gradient coil apparatus comprising: a first series of loops 120 arranged along a first axis; and a second series of loops 124 arranged along a second axis which is approximately coaxial with the first axis, wherein the first series of loops are adapted to allow a first current to flow in a first direction 122, and the second series of loops are adapted to allow a second current to flow in a second direction 124 which is opposite to the first direction 122, and wherein the first and second series of loops form at least one magnetic field gradient coil structure.  
(Column 5 line 64 through column 6 line 9)

The preamble will not be given any patentably weight.



Claims 23, and 30-32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlson US Patent 4,755,755

With regards to claims 23 ~~and 24~~, Carlson disclose in figure 1, an MRI coil comprising a first conductive turn; a second conductive turn electrically coupled to the first conductive turn; wherein the first and second conductive turns form a solenoid coil 10. The second conductive turn forms a segment that has an approximate shape of an arc when viewed along a direction of extension of the first conductive turn, and wherein the first and second conductive turns form at least one magnetic field gradient coil structure. (Column 4; lines 1-23)



In figure 2, Carlson discloses saddle coils A, B, C, and D. The axially aligned partial turns within each arc of saddle coil A and B have opposingly directed currents as indicated by the arrows. (Column 4; line 64-66)

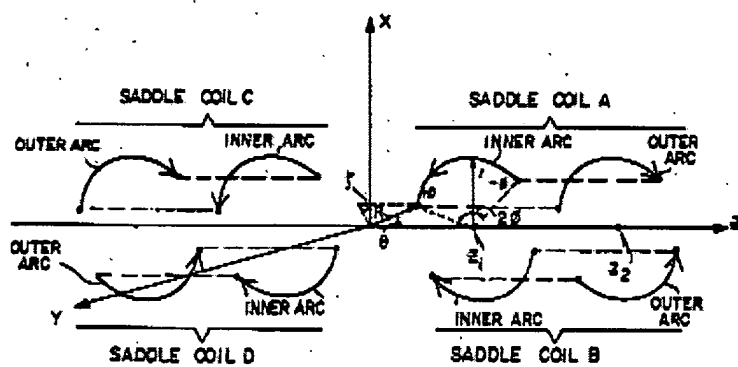


FIG. 2

With regards to claims 30-35, Carlson disclose in figure 1, an MRI <sup>coil</sup> comprising a first conductive turn; a second conductive turn electrically coupled to the first conductive turn; wherein the second conductive turns forms a segment having a plurality of arcs which are approximately 120 degrees (which is less than 360, 270 and 180 degrees). (Figure 2 and column 6; line 29-30). The second conductive turn forms a segment that has an approximate shape of an arc when viewed along a direction of extension of the first conductive turn, and wherein the first and second conductive turns form at least one magnetic field gradient coil structure. As disclose above figure 2, discloses saddle coils A, B, C, and D. The axially aligned partial turns within each arc of saddle coil A and B have opposingly directed currents as indicated by the arrows. (Column 4; line 64-66) Saddle coil A is situated symmetrically opposite to saddle coil B.

***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

Claims 5, 6, 11, 12, 17, 18, 21, 36, 38-42 and 44-52 are allowed. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5, 6, 11, 12, 17, 18, 21, 36, 38-42 and 44-52 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 5, 11, 17, 21 and 52, the prior art of record does not disclose or fairly teach first conductive member is offset axially from the second conductive member.

With regards to claims 6, 12, 18, 36, 38-42, and 44-51, the prior art of record does not disclose or fairly teach a switch configured to dynamically control an offset between the first and second conductive members.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E. Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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